What is claimed is:

1. A circuit for reducing adjacent pixel interdependence in a liquid crystal display, comprising:

    a decomposer for dividing an input signal into a plurality of signals having at least a high brightness signal and at least one low brightness signal;

    at least one transient conditioner circuit for reducing adjacent pixel interdependence by limiting signal transients between brightness levels in said at least one low brightness signal;

    a delay match circuit for said high brightness signal; and,

    means for combining the delayed high brightness signal with said at least one signal transient processed low brightness signal to provide an output signal, wherein said output signal has reduced sparkle artifacts.

2. The circuit of claim 1, wherein the at least one transient conditioner circuit comprises at least one slew rate limiter.

3. The circuit of claim 1, wherein the decomposer divides the input signal into the high brightness signal, a medium brightness signal, and a low brightness signal and the at least one transient conditioner circuit provides at least a transient conditioned low brightness signal and further comprises a second transient conditioner circuit for processing the medium brightness signal to provide a transient conditioned medium brightness signal.

1   4.   The circuit of claim 3, wherein the combiner combines the delayed high

2   brightness signal, the transient conditioned low brightness signal and the

3   transient conditioned medium brightness signal.

1   5.   The circuit of claim 2, wherein the input signal is below a threshold signal

2   in the decomposer, then the high brightness signal is zero and the at least

3   one low brightness signal is the input signal and wherein if the input signal is

4   above the threshold signal, then the high brightness signal is the input signal

5   minus the threshold signal and the at least one low brightness signal is the

6   threshold signal.

1   6.   The circuit of claim 3, wherein the decomposer further comprises a lower

2   threshold and an upper threshold, wherein if the input signal is greater than

3   the upper threshold, then the high brightness signal equals the input signal

4   minus the upper threshold, the medium brightness signal equals the upper

5   threshold minus the lower threshold, and the at least one low brightness

6   signal equals the low threshold, and wherein if the input signal is less than the

7   upper threshold but greater than the lower threshold, then the high brightness

8   signal equals zero, the medium brightness signal equals the input signal

9   minus the lower threshold, and the at least one low brightness signal equals

10   the lower threshold, and wherein if the input signal is less than the lower

11   threshold, then the high brightness signal equals zero, the medium brightness

12   signal equals zero, and the at least one low brightness signal equals the input

13   signal.

1   7.   The circuit of claim 1, wherein the liquid crystal display is a liquid crystal on

2   silicon (LCOS) display.

1   8.   The circuit of claim 1, wherein the at least one transient conditioner comprises

2   at least one recursive slew rate limiter.

1   9.   The circuit of claim 1, wherein the at least one transient conditioner comprises

2   at least one finite response conditioner for limiting bright going transients.

1   10.   The circuit of claim 1, wherein the at least one transient conditioner comprises

2   at least one recursive slew rate limiter and at least one finite response filter.

1   11. The circuit of claim 1, wherein the delay match circuit comprises a sample delay

2   circuit.

1   12.   The circuit of claim 1, wherein the at least one transient conditioner comprises

2   an anticipatory portion and a reactive portion.

1   13.   A method for reducing adjacent pixel interdependence in a liquid crystal

2   display, comprising the steps of:

3   dividing an input signal into at least a high brightness signal and at

4   least one low brightness signal;

5   slew rate limiting and finite response filtering the at least one low

6   brightness signal to reduce adjacent pixel interdependence by limiting signal

7   transients between brightness levels;

8   delay matching the high brightness signal; and,

9   combining said at least one slew rate limited and finite response filtered

10   low brightness signal and said delayed high brightness signal to form an

11   output signal having reduced sparkle artifacts.

1   14.   The method of claim 13, comprising the step of slew rate limiting dark going

2   transients of said at least one low brightness level signal and finite response

3   filtering bright going transients of said at least one low brightness level signal.

15.   The method of claim 13, wherein the step of slew rate limiting comprises the

step of asymmetrically slew rate limiting.

16.   The method of claim 13, comprising the steps of:

further dividing said input signal into a medium brightness signal having

3   brightness levels between said high and low brightness level signals;

4   limiting signal transients between brightness levels of said medium

5   brightness signal to further reduce adjacent pixel interdependence; and,

6   combining said slew rate limited and finite response filtered signal with

7   said high and low brightness signals.

1   17.   The method of claim 15, comprising the steps of:

2   slew rate limiting and finite response filtering said medium brightness

3   signal; and,

4   applying different slew rates and different finite filter responses to said

5   medium and low brightness signals.